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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/320,649	05/27/1999	NATSUHIKO MORI	100725-9009	5070
4372	7590	12/08/2010	EXAMINER	
ARENT FOX LLP 1050 CONNECTICUT AVENUE, N.W. SUITE 400 WASHINGTON, DC 20036			JOYCE, WILLIAM C	
			ART UNIT	PAPER NUMBER
			3656	
			NOTIFICATION DATE	DELIVERY MODE
			12/08/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DCIPDocket@arentfox.com  
IPMatters@arentfox.com  
Patent\_Mail@arentfox.com

# Office Action Summary

**Application No.**

09/320,649

**Applicant(s)**

MORI ET AL.

**Examiner**

William C. Joyce

**Art Unit**

3656

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 September 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4, 6-9, 25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SD-102)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date \_\_\_\_\_

### **DETAILED ACTION**

This Office Action is in response to the amendment filed September 29, 2010 for the above identified patent application.

#### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

2. Claims 1-4, 6-9, and 25-26 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyasaka et al. (USP 5,746,516) in view of Hayakawa (USP 5,789,836).

Miyasaka et al. discloses a hydrodynamic type oil-impregnated sintered bearing, comprising: a porous bearing body (3) of sintered metal having a bearing surface opposed to a sliding surface of a rotating shaft to be supported via a bearing clearance, and hydrodynamic pressure generating grooves (6) slanting against an axial direction provided in the bearing surface; and lubricating oil or lubricating grease impregnated in pores inside the bearing body, wherein a rate of area of surface holes on the bearing surface is set within a range of 5%-40% (column 4, lines 12+), wherein said lubricating oil or a base oil of said lubricating grease forms a lubricating film in the bearing clearance due to the hydrodynamic pressure generating grooves while circulating between an inside of the bearing body and the bearing clearance through the surface holes on the bearing

surface, so that the lubricating film continuously supports the rotating shaft in a non-contact manner.

Miyasaka et al. does not appear to disclose the bearing arrangement having the claimed lubricant, however it was well known in the art to lubricate a bearing with the claimed lubricant.

For example, Hayakawa teaches a hydrodynamic type bearing, comprising: a lubricating oil or lubricating grease, wherein said lubricating oil or a base oil of said lubricating grease is a lubricating oil selected from among mixtures of poly- $\alpha$ -olefin or hydrogenated compound thereof and polyol ester. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the bearing device of Miyasaka et al. with the lubricant of Hayakawa, motivation being to reduce wear/friction between mating components, to provide a lubricant having improved gelation resistance, and/or to provide a reliable and long lasting bearing device.

With respect to claims 4 and 9, Miyasaka et al. does not disclose the sintered metal being formed of a mixture of copper, iron, and aluminum. It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the bearing from a combination of any two of the materials copper, iron, and aluminum, since it has been held to be within the general skill of a

worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

3. Alternatively, claims 4 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over Miyasaka et al. (USP 5,746,516) and Hayakawa (USP 5,789,836), as applied to claims 1 and 6 above, and further in view of Tokushima et al. (USP 5,821,655).

Tokushima et al. discloses a porous bearing (3) formed from iron and copper (Fig 4, lines 27+ of column 7, and elsewhere). It would have been obvious to one of ordinary skill in the art to form the bearing of Miyasaka et al. from iron and copper, as taught by Tokushima et al., motivation being to provide a bearing having superior abrasion characteristics.

### ***Response to Arguments***

4. Applicant's arguments with respect to claims 1 and 6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C. Joyce whose telephone number is (571) 272-7107. The examiner can normally be reached on Monday - Thursday 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/William C. Joyce/  
Primary Examiner, Art Unit 3656